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(54) **Safety coated bottle**

(57) A method of labelling glassware comprising applying a plastics label to a surface of the glassware and

applying a transparent plastics safety coating to the glassware and to cover the label whereby the label is permanently secured to the glassware by the safety coating and is visible through the coating.

GB 2 103 956 A

SPECIFICATION

Safety coated bottle

- The invention relates to glass vessels and more particularly, but not exclusively, to laboratory glassware of the nature of reagent bottles. Such bottles are sometimes coated with a plastics material to minimise the effects of accidental breakage and it is particularly to such safety coated glassware that the invention is directed.
- Often reagent bottles are made with an enamelled or sand blasted label which describes the bottle contents or which provides a warning of the harmful nature of the bottle contents. The labelling of bottles in these known manners is expensive and adds considerably to the cost of such laboratory glassware but to avoid danger it is often essential that reagent bottles are permanently and clearly labelled.
- It is an object of the invention to provide labelled, safety coated laboratory glassware which is relatively inexpensive to produce.
- Accordingly we apply a label to the laboratory glassware before it is provided with a safety coating of transparent plastics material so that the label is also coated with the plastics material and is visible through the coating. By this method we are able to use relatively inexpensive labels, preferably flexible plastics printed labels since in use they are protected by the safety coating on the glassware. The labels may be secured to the glassware by an adhesive but we prefer to use soft plastics labels of the kind which can be secured to glass without an adhesive and due to the exclusion of air from between the label and the smooth surface of the glass.
- In a preferred method we apply a soft flexible polyvinyl chloride label of the adhesive-less kind to laboratory glassware, e.g. a reagent bottle, the label being silk-screen printed white over the whole of its surface and then printed in a contrasting colour, e.g. black, on the white surface with letters indicating the bottle contents. After heating the bottle to around 80°C the bottle is then dipped into a vat of liquid polyvinyl chloride, so that the heat of the bottle causes a coating of polyvinyl chloride to jell on the surface of the bottle. The bottle is then removed from the vat and after surplus liquid polyvinyl chloride has been allowed to drain from the bottle it is placed in a curing oven heated to around 200°C to cure the plastics coating on the bottle. We have found that polyvinyl chloride labels are capable of withstanding this coating process without discolouring and without pulling away from the bottle. The result is a relatively inexpensive permanently labelled safety coated reagent bottle.
- We have also discovered that it is possible to

- make a relatively low cost low actinic safety coated bottle or other glass vessel by adding a dye to the plastics coating material. In the method described above the dye is added to the vat of liquid polyvinyl chloride. Conventionally such glassware is produced using coloured glass but this is considerably more expensive.
- Although we prefer to apply the plastics safety coating by dipping it will be appreciated that the coating could be applied in other ways, e.g. by spraying.

CLAIMS

1. A method of labelling glassware comprising applying a plastics label to a surface of the glassware and applying a transparent plastics safety coating to the glassware and to cover the label whereby the label is permanently secured to the glassware by the safety coating and is visible through the coating.
2. A method according to claim 1, wherein the safety coating is of polyvinyl chloride.
3. A method according to claim 1 or claim 2, wherein the label is a soft plastics label of the kind capable of being secured to a smooth surface of the glassware without the use of an adhesive.
4. A method according to claim 3, wherein the label is of soft flexible polyvinyl chloride.
5. A method according to claim 4, wherein the label is silk-screen printed in one colour over the whole or substantially the whole of its surface in one colour and is then printed in a contrasting colour with descriptive lettering.
6. A method according to any preceding claim, wherein after applying the label the glassware is heated to around 80°C before it is coated with the transparent plastics.
7. A method according to any preceding claim, wherein the plastics safety coating is applied to the glassware by dipping or by spraying.
8. A method according to any preceding claim, wherein after application of the safety coating, the glassware is heated to around 200°C to cure the coating.
9. A method according to any preceding claim, wherein the plastics safety coating incorporates a dye whereby the resulting coated glassware is of the low actinic variety.
10. A method of labelling glassware substantially as hereinbefore described.
11. A method of making a labelled, safety coated reagent bottle substantially as hereinbefore described.
12. Labelled safety coated glassware made by the method claimed in any preceding claim.
13. A labelled safety coated reagent bottle made by the method according to any one of claims 1 to 11.